

## CONTRIBUTORS TO THIS ISSUE

**Robert V. Anderson**, Bell Laboratories, 1954—. Mr. Anderson began his career as a Technical Aide. He has worked on a wide variety of projects including error-correcting code demonstrator, seismic encoder, world's fair exhibits, aids for the handicapped, computer control of the Murray Hill exhibit area, and computer terminals. He is currently a Member of Technical Staff.

**Douglas L. Bayer**, B.A., 1966, Knox College; M.S. (Physics), 1968, and Ph.D. (Nuclear Physics), 1970, Michigan State University; Rutgers University, 1971-1973; Bell Laboratories, 1973—. At Rutgers University, Mr. Bayer was involved in low-energy nuclear scattering experiments. At Bell Laboratories, he has been involved in computer operating systems research on mini- and microcomputers. Member, ACM.

**Aland K. Chin**, B.A., 1972, Brandeis University; M.S., 1975, Ph.D., 1977, Cornell University; Senior Research Engineer, Honeywell Electro-Optics Center, 1977-1978; Bell Laboratories, 1978—. Mr. Chin is involved in the design, processing, and characterization of light-emitting diodes for optical communication systems. Member, American Physical Society, American Association for the Advancement of Science, Phi Beta Kappa, New York Academy of Science, Electrochemical Society.

**Richard V. Cox**, B.S. (Electrical Engineering), 1970, Rutgers University; M.A., 1972, Ph.D., 1974 (Electrical Engineering), Princeton University; The Aerospace Corporation, 1973-1977; Assistant Professor, Rutgers University, 1977-1979; Bell Laboratories, 1979—. Mr. Cox is a member of the Acoustics Research Department. His current research interests are in digital speech coding, analog speech scrambling, and real-time speech processing systems.

**Michael A. DiGiuseppe**, B.S. (Chemistry), 1968, Polytechnic Institute of New York; Ph.D. (Chemistry), 1975, Brown University; Allied Corporation, 1973-1980, Bell Laboratories, 1980—. At Allied Corporation Mr. DiGiuseppe was engaged in the crystal growth of garnets for use as laser-hosts and substrates for magnetic films. Research efforts focused on high temperature phase equilibria in oxide melts. At Bell Laboratories Mr. DiGiuseppe is engaged in the crystal growth research of alloys for lightwave applications. Member, AACG (current AACG-NJ chairman), ACS, AAAS, Sigma Xi.

**Nancy Y. Graham**, A.B., 1959, M.A., 1962 (Mathematics), University of California, Berkeley; Bell Laboratories, 1970-1975, 1979—. Ms. Graham was a part-time employee in the Acoustics Research Department from 1970 to 1975, where she became interested in computer graphics. Ms. Graham returned to Bell Laboratories in 1979 and is a Member of Technical Staff in the Computer Graphics Group.

**David W. Hagelbarger**, A. B. (Chemistry, Mathematics, Physics), 1942, Hiram College; Ph.D. (Physics), 1947, California Institute of Technology; Bell Laboratories, 1949—. Mr. Hagelbarger has done research in a variety of fields including learning machines, stability of molten zones, magnet design, error-correcting codes, information retrieval, seismic monitoring of nuclear test bans, world's fair exhibits, switching networks, aids for the handicapped, and teaching aids. He is currently interested in improving the interface between computers and people.

**Nuggehally S. Jayant**, B.Sc. (Physics and Mathematics), 1962, Mysore University; B.E., 1965, and Ph.D. (Electrical Communication Engineering), 1970, Indian Institute of Science, Bangalore; Research Associate at Stanford University, 1967-1968; Bell Laboratories, 1968—. Mr. Jayant was a visiting scientist at the Indian Institute of Science in 1972 and 1975. He has worked in the field of digital coding and transmission of waveforms, with special reference to robust speech communications. He is also editor of the IEEE Reprint Book, *Waveform Quantization and Coding*.

**Peter D. Karabinis**, B.E.(E.E.), 1974, M.E.(E.E.), 1976, The City College of New York; Bell Laboratories, 1976—. Mr. Karabinis is a member of the Exploratory Radio Systems Department of the Radio Transmission Laboratory. His interests lie in wideband digital transmission over dispersive channels, optimum transmitter-receiver design techniques, and digital signal processing. He has worked on space diversity combiners and intermediate frequency equalizers, and is currently involved in design and development of components for high-speed digital radio systems. Member, Eta Kappa Nu.

**Vassilis G. Keramidas**, Ph.D. (Solid State Science), 1973, Materials Research Laboratory, Pennsylvania State University; Bell Laboratories, 1973—. Mr. Keramidas has worked on LEDs for displays and optoelectronics, on ohmic contacts to compound semiconductors and on the crystal growth, by liquid phase epitaxy, and characterization of

materials for LEDs for lightwave communications. He is currently Supervisor of a Special Materials Group. Member of American Physical Society, Electrochemical Society, American Association for Crystal Growth.

**Peter S. Kubik**, Western Electric, 1942-1947; Bell Laboratories, 1947—. Mr. Kubik started his career as a screw machine operator at Western Electric. He attended evening classes in mechanical design at Stevens Institute and Newark College of Engineering. Mr. Kubik did the physical design of two experimental switching offices, ESSEX and XDS. He has worked on a variety of projects including magnetostrictive delay lines, the first successful gas laser, world's fair exhibits, educational aids, aids for the handicapped, and computer terminals. He is currently a Member of Technical Staff.

**Barbara J. McDermott**, B.A., 1949, University of Michigan, Ann Arbor; M.A., 1962, Columbia University, New York; Haskins Laboratories, 1950-1959; Bell Laboratories, 1959—. From 1950-1959 Ms. McDermott was a research assistant at Haskins Laboratories, New York. Since 1959, she has been a Member of the Speech Research Department, Bell Laboratories, Murray Hill, NJ, where her principal research interest has been the perception of transmitted speech.

**John A. Morrison**, B.Sc., 1952, King's College, University of London; Sc.M., 1954 and Ph.D., 1956, Brown University; Bell Laboratories, 1956—. Mr. Morrison has done research in a number of different areas of applied mathematics and mathematical physics. He has recently been interested in probability theory, and various queueing problems in particular. He was a Visiting Professor of Mechanics at Lehigh University during the Fall semester, 1968. He is currently the Managing Editor of SIAM Review. Member, American Mathematical Society, SIAM, IEEE, Sigma Xi.

**Ann Marie S. Quinn**, B.S. (Linguistics and Speech Science), Rutgers University, New Brunswick, NJ; Bell Laboratories, 1969—. Ms. Quinn is presently working in the Acoustics Research Department.

**Robert H. Saul**, Ph.D. (Metallurgy and Materials Science), 1967, Carnegie-Mellon University; Bell Laboratories, 1967—. Initially Mr. Saul was engaged in characterization and development of epitaxial growth techniques for opto-electronic materials and devices. In 1972

he became Supervisor of a group responsible for developing visible light-emitting diodes. That work pioneered the use of multi-slice epitaxial techniques for achieving state of the art performance in a manufacturable growth system. Since 1975 Mr. Saul has supervised a group responsible for developing a variety of infrared light-emitting diodes that are used in optical-isolators and fiber optic systems. His current interests include development of long wavelength sources for lightwave transmission systems and reliability of detectors. Mr. Saul holds eight patents in the area of materials growth and opto-electronic devices. Senior member, IEEE; member, American Physical Society, Sigma Xi, Tau Beta Pi. Chairman, 1982 IEEE Specialist Conference on Light-Emitting Diodes and Photodetectors.

**R. A. Semplak**, B.S. (Physics), 1961, Monmouth College; Bell Laboratories, 1955—. Mr. Semplak's main research interest is in studies of atmospheric effects on micro- and millimeter-wave propagation. Currently, he is a member of the Radio Communications Research Department. Member, Sigma Xi and Commission F of the International Union of Radio Science (URSI/USNC).

**Henryk Temkin**, Ph.D. (Physics), 1975, Stevens Institute of Technology; Cornell University, 1975-1977; Bell Laboratories, 1977—. Mr. Temkin is involved in the development of materials and devices for fiber communications. He is currently a member of the Semiconductor Electronics Research Department. Member, American Physical Society, Electrochemical Society.

**Richard A. Thompson**, B.S., 1964 (Electrical Engineering), Lafayette College; M.S., 1966 (Electrical Engineering), Columbia University; Ph.D., 1971 (Computer Science), University of Connecticut; Bell Laboratories, 1963-1968, 1977—. Mr. Thompson is currently in the Digital Systems Research Department at Murray Hill, NJ. He was a member of the Electrical Engineering Department at Virginia Polytechnic Institute and State University from 1971-1977, achieving the rank of Associate Professor. His research interests include probabilistic formal languages, fault tolerance and cellular automata, the human-machine interface, and communications systems. Member, IEEE, active participant in Computer and Communications Societies.

**José M. Tribolet**, B.S. (Electrical Engineering), 1972, Instituto Superior Técnico, Lisbon, Portugal; M.S., E.E., and Sc.D degrees (Electrical Engineering) from the Massachusetts Institute of Technol-

ogy, Cambridge, in 1974, 1975, and 1977, respectively. From 1972 to 1977 Mr. Tribolet was a member of the Massachusetts Institute of Technology Research Laboratory of Electronics, where his research activities involved the application of homomorphic signal processing to speech and seismic data analysis. From 1977 to 1978 he was with the Acoustics Research Department, Bell Laboratories, Murray Hill, NJ, as a post-doctoral fellow, working on adaptive transform coding of speech. He is presently Full Professor of Electrical Engineering and Computer Science at the Instituto Superior Técnico, Lisbon, Portugal, where he directs the Research Institute in Systems Engineering and Computer Science (INESC). Mr. Tribolet was recently on sabbatical leave at the Acoustics Research Department, Bell Laboratories, Murray Hill, NJ, from July through December 1981, where he worked on speech recognition, coding, and scrambling. Member, Sigma Xi.

**Wilson W. Yale**, B.S. (Mathematics), 1973, M.S. (Mgt. Science), 1976, Ph.D. (Industrial Engineering), 1978, Lehigh University; Bell Laboratories, 1978—. Mr. Yale has done research in non-linear programming, cutting tool engineering, finance, decision support systems, and customer decision modeling. More recently he has been interested in stochastic problems arising from office automation and from estimating the demand for virtual private-line networks. He was a Visiting Professor of Industrial Engineering at Lehigh University during the spring semester of 1979. Member, ORSA, TIMS.

**Christie L. Zipfel**, A.B. (Physics), 1963, Vassar College; M.S., 1965, and Ph.D., 1969 (Physics), University of Michigan; Bell Laboratories, 1974—. Mrs. Zipfel is a member of the Lightwave LED Group.

